SAF-RC-001
Industrial Hygiene Sampling
FINAL DATA

NO DISTRIBUTION REQUIRED

COMMENTS:

SDG 06I-0617-01 SAF-RC-001

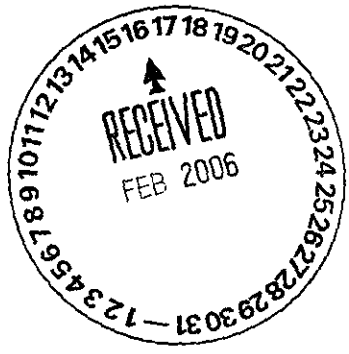
Rad only X Chem only Rad & Chem

X Complete Partial

300 Area 303M Bldg

DATA CHEM LABORATORIES

Cover Page



Report Identification Number: 06I-0617-01
Subcontract Number: 0000X-BO-G0058-B-Mod#4
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
Laboratory Identification Number: DCHM
SAF#: RC-001 / R303MO J451
Payroll#: 73338

Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
09 Feb 2006	J114L7	06I04902	NMAM 7300M	G061F012	MCE
09 Feb 2006	J114L8	06I04903	NMAM 7300M	G061F012	MCE
09 Feb 2006	J114L9	06I04904	NMAM 7300M	G061F012	MCE
09 Feb 2006	J114M0	06I04905	NMAM 7300M	G061F012	MCE
09 Feb 2006	J114P8	06I04906	NMAM 7300M	G061F012	MCE

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Name: Joanna C. Sanchez
Title: Chemist
Date: February 15, 2006

DATA CHEM LABORATORIES

Case Narrative Page

Report Identification Number: 06I-0617-01
Subcontract Number: 0000X-BO-G0058-B-Mod#4
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
Laboratory Identification Number: DCHM
SAF#: RC-001 / R303MO J451
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General Set Information: There are 3 samples in set 06I-0561-01, 6 samples in set 05I-0563-01 and 5 samples in set 06I-0617-01 which were analyzed for beryllium, lead and cadmium on MCE filter. No problems were encountered with the receipt of these samples and no contact with the CTR was required.

Method Summary: Samples were transferred to 50 ml centrifuge tubes and digested in the presence of 10 mL of 1:1 (v/v) nitric acid. Samples were digested in a hot block set at 110°C for 40 minutes. Samples were then diluted to a 25 mL volume with ASTM Type II Water. Samples were shaken and delivered for ICP analysis.

Sample Preparation: All samples were prepared in accordance with DCL SOP "IH-AN-021" and NIOSH method NMAM 7300 modified for hot block digestion.

Holding Times: The holding times were met for both sample preparation and analysis.

Instrument Calibration: Instrument calibration was performed in accordance with NIOSH method NMAM 7300.

Initial and Continuing Calibration Verification Analysis: Beryllium, cadmium and lead recoveries in all Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) samples are within the quality control limits of +/- 10%.

Initial and Continuing Calibration Blank Analysis: No beryllium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.02 ug/sample. No cadmium results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 0.08 ug/sample. No lead results were found in the Initial Calibration Blank (ICB) or Continuing Calibration Blanks (CCB) at levels above the Limit of Quantitation (LOQ) of 1. ug/sample.

Method Blank Analysis: No beryllium, cadmium or lead was found in the media blank sample above the Contract Required Detection Limit (CRDL).

Dilution(s): NA.

DATA CHEM LABORATORIES

Case Narrative Page

Laboratory Control Sample and Duplicate Analysis: Two Laboratory Control Samples (LCSs) and two Laboratory Control Sample Duplicates (LCSDs) were prepared and analyzed with the sample batch. The LCS result was within the control limit of +/- 20%. The Relative Percent Differences (RPD) between the LCS and the LCSD was within the control limit of 20%.

Replicate Analysis: Two samples were replicated with this analysis run. The RPD between the sample and the replicate was within the control limit of 20%. If the result of the sample or replicate is below the CRDL, replicate analysis is negligible.

Flagging Codes: None

Nonconformance/Corrective Action Report (NC/CAR): N/A

Sample Calculation: The final results are calculated by the following equation:

Final result for aqueous samples (µg/sample) = (A) x (B) x (C)

Where:

A = Analyte concentration from instrument determination (µg/L)

B = Concentration factor from sample preparation

$$= \frac{\text{Final Volume of Digestate (L)}}{\text{Sample}}$$

C = Dilution performed at time of analysis

Example Calculation: (1 µg/L) x (0.025 L/sample) x (1) = 0.025 µg/sample

Miscellaneous Comments: None.

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Salt Lake City, Utah 84123-2547

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DATA CHEM LABORATORIES

Report Page

Report Identification Number: 06I-0617-01
Subcontract Number: 0000X-BO-G0058-B-Mod#4
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
Laboratory Identification Number: DCHM
SAF#: RC-001 / R303MO J451
Payroll#: 73338

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Beryllium µg/sample		Beryllium µg/m³		Air Volume L	
J114L7	06I04902	14 Feb 2006	<0.02	U	**		**	
J114L8	06I04903	14 Feb 2006	<0.02	U	**		**	
J114L9	06I04904	14 Feb 2006	<0.02	U	<0.066	U	305.	
J114M0	06I04905	14 Feb 2006	<0.02	U	<0.071	U	283.	
J114P8	06I04906	14 Feb 2006	<0.02	U	<0.068	U	296.	
Limit of Detection (LOD)			0.02					
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Lead µg/sample		Lead µg/m³		Cadmium µg/sample	
J114L7	06I04902	14 Feb 2006	<1.	U	**		<0.08	U
J114L8	06I04903	14 Feb 2006	<1.	U	**		<0.08	U
J114L9	06I04904	14 Feb 2006	<1.	U	<3.3	U	<0.08	U
J114M0	06I04905	14 Feb 2006	<1.	U	<3.5	U	<0.08	U
J114P8	06I04906	14 Feb 2006	<1.	U	<3.4	U	<0.08	U
Limit of Detection (LOD)			1.				0.08	
Required Detection Limit (RDL)								

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Cadmium µg/m³	
J114L7	06I04902	14 Feb 2006	**	
J114L8	06I04903	14 Feb 2006	**	
J114L9	06I04904	14 Feb 2006	<0.26	U
J114M0	06I04905	14 Feb 2006	<0.28	U
J114P8	06I04906	14 Feb 2006	<0.27	U
Limit of Detection (LOD)				
Required Detection Limit (RDL)				

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Report Page

U - Parameter not detected above LOD.
J - Parameter between LOD and RDL.

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DATA CHEM LABORATORIES

QC Summary Page

Report Identification Number: 06I-0617-01
Subcontract Number: 0000X-BO-G0058-B-Mod#4
Name of Industrial Hygienist: Denise A. Pitts / Henry W. Ruby
Laboratory Identification Number: DCHM
SAF: RC-001 / R303MO J451
Payroll#: 73338

Batch ID: G061F012

QC Sample ID	QC Type	Analyte	Units	Result	Parent Result	Target	Percent Rec.	Relative Percent Diff.
BL-241304-1	MB	Beryllium	µg/sample	ND	NA	NA	NA	NA
BL-241304-1	MB	Lead	µg/sample	ND	NA	NA	NA	NA
BL-241304-1	MB	Cadmium	µg/sample	ND	NA	NA	NA	NA
QC-241304-1	LCS	Beryllium	µg/sample	11.0	NA	10.0	110.	NA
QC-241304-1	LCS	Lead	µg/sample	106.	NA	100.	106.	NA
QC-241304-1	LCS	Cadmium	µg/sample	33.2	NA	30.0	111.	NA
QD-241304-1	LCSD	Beryllium	µg/sample	10.7	11.0	10.0	107.	2.84
QD-241304-1	LCSD	Lead	µg/sample	104.	106.	100.	104.	1.26
QD-241304-1	LCSD	Cadmium	µg/sample	32.3	33.2	30.0	108.	2.58

MB - Method Blank
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MSD - Matrix Spike Duplicate
LD - Laboratory Duplicate

NA - Not Applicable
ND - Parameter not detected above LOD

LCS, LCSD Percent Rec. = (Result / Target) * 100.0
MS, MSD Percent Rec. = ((Result – Parent) / Target) * 100.0

LCS, LCSD Relative Percent Diff. = ((|LCS – LCSD|) / ((LCS + LCSD)/2.0)) * 100.
MS, MSD Relative Percent Diff. = ((|MS – MSD|) / ((MS+ MSD)/2.0)) * 100.
LD Relative Percent Diff. = ((|Parent – LD|) / ((Parent + LD)/2.0)) * 100

DATA CHEM LABORATORIES

COC Page

06I-0617-01

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: Chris Schilling	Company Contact: Denise A. Pitts and Henry W. Ruby	Telephone No. 531-1229	Project Coordinator: Joan H. Kessner	Data Turnaround: 24 hr
Payroll #: 73338	Sampling Location: 300 Area, 303 M Bldg	SPECIAL INSTRUCTIONS: All relevant COAs must be provided: R303M0J451	SAF No. RC-001	
Type of Sample: Pb, Be, Cd Wipes		ANALYSIS METHOD (SPECIFIC): NIOSH 7300 Be Pb Cd	Method of Shipment: Federal Express	
Shipped To: Data chem Salt Lake	Wipe Sample Media: Ghost ☐ Yes ☐ No; Other ___ (2-9-06)		Bill of Lading/Air Bill No. 8544 9435 4770	
POSSIBLE SAMPLE HAZARDS/REMARKS: Pb, Be, Cd	MATRIX: A - AIR; WI - WIPE; X - OTHER	Preservation (i.e., cooling required, etc.)		
Special Handling and/or Storage: N/A				

SAMPLE ANALYSIS

SAMPLE NO.	MATRIX	SAMPLE DATE	VOLUME (L) or Area ___ cm²	Comments	Asbestos Airborne (No)	Lead Airborne (No)	Beryllium Airborne (No)	Beryllium Wipe (No)	Mold (No)	Lead Wipe (No)	Cd Wipe (No)	Cd Airborne (No)
J114L7	A	2-9-06	N/A	Blank		X	X	06I04902				X
J114L8	A	↓	N/A	Blank		X	X	↓	03			X
J114L9	A	↓	305	Personal		X	X	↓	04			X
J114M0	A	↓	283	Personal		X	X	↓	05			X
J114P8	A	2-9-06	296	Personal		X	X	↓	06			X

CS 2-9-06

WCH-SH-202 (08/29/2005)

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DATA CHEM LABORATORIES

COC Page

Enter on line below the first Sample Number from Page One:

311467

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

SIGN / PRINT NAMES / USE MILITARY TIME

Relinquished By/Signed	DATE / TIME	Received By/Signed	DATE / TIME
Chris Schilling	2-9-06 1615	Locked Cabinet Rm16 3746 Bldg	2-9-06 1615
locked cabinet bldg 3746 Rm#16			
Goldie Mallan Goldie Mallan	02-13-06 / 1430	RZ Steffler R.J. Steffler	2-13-06 / 1430
RZ Steffler R.J. Steffler	WCH 2-13-06 1600	Fed Ex	
Fed Ex		Jerlin Warren	2/14/06 1030
Metals 3dw			

LABORATORY SECTION	Received By	Title	DATE / TIME
	Jerlin Warren		2/14/06 1030

REVIEWED BY: _____ DATE: _____

PRINT/SIGN NAME

WCH-SH-202 (09/29/2005)

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Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector: Chris Schilling	Company Contact: Denise A. Pitts and Henry W. Ruby	Telephone No.: 531-1229	Project Coordinator: Joan H. Kessner
Payroll #: 73338	Sampling Location: 300 Area, 303 m Bldg	SPECIAL INSTRUCTIONS: All relevant COAs must be provided: R303M03451	SAF No.: RC-001
Type of Sample: Pb, Be, Cd Wipes	Wipe Sample Media: Ghost ☒ Yes ☐ No 2-9-06; Other	ANALYSIS METHOD (SPECIFIC): NIOSH 7300 Be Pb Cd	Method of Shipment: Federal Express
Shipped To: Datachem Salt Lake			Bill of Lading/Air Bill No.: 8544 9435 4770
POSSIBLE SAMPLE HAZARD/REMARKS: Pb, Be, Cd	MATRIX: A - AIR; WI - WIPE; X - OTHER	Preservation (i.e., cooling required, etc.)	Data Turnaround: 24 hr
Special Handling and/or Storage: N/A			

SAMPLE ANALYSIS

SAMPLE NO.	MATRIX	SAMPLE DATE	VOLUME (L) or Area ____ cm²	Comments	Asbestos Airborne	Lead Airborne	Beryllium Airborne	Beryllium Wipe	Mold	Lead Wipe	Cd Wipe	Cd Airborne
					No	No	No	No	No	No	No	No
J114L7	A	2-9-06	N/A	Blank		X	X					X
J114L8	A		N/A	Blank		X	X					X
J114L9	A		305	Personal		X	X					X
J114M0	A		283	Personal		X	X					X
J114P8	A	2-9-06	296	Personal		X	X					X

COPY

FIELD SAMPLE COPY

SJ 2-9-06

Enter on line below the first Sample Number from Page One:

311467

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

SIGN / PRINT NAMES / USE MILITARY TIME

Relinquished By/Signed	DATE / TIME	Received By/Signed	DATE / TIME
Chris Schilling 2-9-06	1615 1415 2-9-06	Locked Cabinet Rm 16 3746 Bldg 2-9-06	1615 1415 2-9-06
Locked cabinet bldg 3746 Rm #16 Goldie Malhan Goldie Malhan	02-13-06 / 1430	RZ Steffler R.J. Steffler	2-13-06 / 1430
RZ Steffler R.J. Steffler	WCH 1600 2-13-06	Fed Ex	

LABORATORY SECTION	Received By	Title	DATE / TIME

REVIEWED BY: _____ DATE: _____

PRINT/SIGN NAME